Total Maximum Daily Load (TMDL) Program

Note: This information is provided for reference purposes only. Although the information provided here was accurate and current when first created, it is now outdated.

The materials which follow were developed by FACA workgroups for discussion by the TMDL Federal Advisory Committee. They are the Committee's chosen method by which to deliberate the issues under consideration. These papers are not to be misconstrued as representing EPA policy or guidance. This draft document is for discussion purposes ONLY and is not for citation or quotation. This draft was created for members of the Federal Advisory Committee on TMDLs and does not necessarily reflect the Committee's views or those of EPA.

Federal Advisory Committee on Total Maximum Daily Loads (TMDLs)

September 3-5, 1997
Fifth Avenue Suites Hotel
Portland, Oregon

Draft TMDL FACA Workgroup Papers

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Total Maximum Daily Load (TMDL) Program

M E M O R A N D U M

TO: Members of the Federal Advisory Committee on the TMDL Program

FROM: Anne Dettelbach, Facilitator for the Listing Workgroup

FOR: Members of the Listing Workgroup

DATE: 8/25/97

RE: Listing Workgroup Materials and Discussion Questions

Attached are materials developed by the Listing Workgroup since the Milwaukee meeting in June. The Listing Workgroup met four times over the summer to discuss priority issue areas, including:

1. the "Segmented Approach" to 303(d) listing;
2. 303(d) List Comprehensiveness and Definition (specifically, how to address "threatened" waters; and
3. the Implications of Being on the 303(d) List.

These issue areas were selected based on Workgroup interest and comments received from the full Committee in Milwaukee. All of these issues had been previously discussed by the Workgroup but needed additional debate and deliberation.

The Workgroup's discussions of the first two issue areas are summarized in**TABs B-2** and **B-3**. The status of the Workgroup's efforts on the third issue is summarized below. These materials are not intended to be an exhaustive survey of all options available for a given issue area nor do they capture in detail the views of all Workgroup members; rather, they were developed by the Workgroup facilitator to **summarize, attempt to synthesize, and (where appropriate) provide a policy or legal context for Workgroup teleconference discussions.**

Please note: all three of the above issues are to be taken up in Portland during Committee

discussions of "Old Business." Each issue is briefly outlined below.

(1) Understanding the Segmented Approach: Elements of a Detailed 303(d) List (TAB B-2)

In order to respond to questions raised at the Milwaukee meeting, the Listing Workgroup stepped back from its discussions/delineation of the "segmented approach" to identify the policy objectives to be served by a segmented listing approach. The Workgroup agreed that the segmented approach should serve two important policy objectives: (1) improving and organizing State/EPA management of the 303(d) list and (2) providing important information to the public (including stakeholders in the affected waters and members of the public at large).

The Workgroup discussed but did not reach agreement on whether the segmented approach, as envisioned, would serve a third objective that had been under consideration: providing a framework to tailor constraints (e.g., the prohibition on new or additional discharges) on source actions between the time of listing and TMDL completion based on where the listed water fell in the "segmented approach."

Briefly, the framework described in **TAB B-2** contains seven basic elements that could possibly be used by a State to organize its 303(d) list to meet the first two objectives outlined above. All members of the Workgroup do not necessarily endorse all of the elements. The Workgroup did not have time to develop a detailed framework they could all support. The basic elements are:

- waterbody status;
- basis for listing;
- designated and existing waterbody uses;
- severity of impairment determination;
- priority ranking;
- complexity; and
- schedule/timeframe for TMDL development.

Questions for the Committee: *Do you agree that States should strive in their 303(d) listing programs to meet the two objectives described above (management improvement and public information)? If so, should EPA authorize and encourage States to use the framework described above (and in **TAB B-2**) to help meet those objectives? Are you uncomfortable with any elements of the framework? Which ones and why? Do you have any feedback for the Workgroup on the utility of this framework or an alternative framework to meet the third objective (tailoring of interim source constraints)?*

303(d) List Comprehensiveness and Definition: Threatened Waters (TAB B-3)

The Workgroup did not reach agreement on whether threatened waters should be included on the 303(d) list. During teleconferences, the Workgroup discussed: whether 303(d)(1) provides authority to list threatened waters; the relationship of EPA's antidegradation policy to the TMDL program and the question of listing threatened waters; and whether States should be required to list threatened waters or allowed to list at their discretion (at least to some extent)?

All Workgroup members agreed that threatened waters should be protected against further degradation. However, the Workgroup's final call ended before any consensus could be reached on how this should be accomplished, if at all, through the TMDL listing program. Individual Workgroup members favored the following options on the question of listing threatened ("high quality") waters:

- EPA should require States to list threatened waters under 303(d)(1). Threatened waters are those in imminent danger of violating WQS (e.g., before the next listing cycle; within two years).
- EPA should authorize and encourage States to list under 303(d)(1) those waters in imminent danger of violating WQS.
- EPA should require States to list threatened waters only under 303(d)(3). [Unlike 303(d)(1) TMDLs, 303(d)(3) TMDLs are not subject to EPA review and approval.]
- States should not be required to list threatened waters under 303(d) at all but should rely on other State and Clean Water Act authorities to track these waters. [Note, however, that the Clean Water Act provides that any water not listed under 303(d)(1) must have a TMDL developed under 303(d)(3).]

Several Workgroup members also supported recommending to EPA that it strengthen its implementation of the antidegradation policy (along with one of the above options).

As you review **TAB B-3**, please consider the following questions:

- *Do you agree with the policy objective that States and EPA should work to protect threatened waters from degradation?*
- *If so, which option (or combination of options) best accomplishes this objective?*
- *If not, what (if any) policy objective should the Committee endorse with regard to threatened waters and how might that objective be served through the TMDL program?*

Implications of Being Listed

The Workgroup's discussion of the "implications of being listed" was closely tied to the two other issues listed above. Specifically, the Workgroup discussed what constraints should be placed on source activities (point and nonpoint) along waters that are listed under 303(d)(1) but do not have TMDLs. Although the discussion did not close with consensus on any one approach, the Workgroup did reach tentative agreement on several points:

- Additional loadings of the pollutant causing the impairment should be minimized or prohibited to the extent possible before the TMDL is completed. The Committee should endorse interim constraints that help achieve this objective. The interim constraints should apply only to listed waters awaiting TMDL development.
- Once the TMDL is developed and approved, any constraints on source activities will be governed by the TMDL itself in conjunction with the statute, EPA regulations, and state rules.
- Section 303(d) does not give States or EPA additional authority to impose new regulatory controls (e.g., on nonpoint sources). One question for the Committee is how existing available authorities should/could be used to advance the objective of preventing further degradation. A prohibition on new or additional point source discharges that would cause or contribute to the impairment is contained in EPA regulations (at 40 CFR 122.4(I)) and is implemented through the NPDES program. These regulations are based on the requirement in Section 301(b)(1)(C) of the Clean Water Act that permits contain limits implementing water quality standards.
- The prohibition is focused on preventing additional/new pressures on water quality. There may also be constraints under current law/regulations on existing activities. (See note on existing activities, below.) The "prohibition" weighs heavily against point sources. Nonpoint sources should also do their share to prevent new contributions to impairments. There may possibly be exceptional circumstances under which any generally applicable constraints would be lifted.
- Interim constraints recommended by the Committee should be easy to implement and understand.

Note on constraining existing source activities: The Workgroup did not discuss specific statutory or regulatory authorities for imposing interim constraints on existing activities but did note that this is an important issue. Relevant sections of the statute/regulations may include NPDES permitting requirements that permits must contain limitations beyond technology-based effluent limitations as "necessary to meet water quality standards..." (Clean Water Act Section 301(b)(1)(C)). In addition, the antidegradation policy for water quality limited waters states (in part) that "existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." (40 CFR 131.12(a)(1)).

Note on exceptional circumstances: The Workgroup did not have time to discuss or attempt to reach consensus on which exceptional circumstances might justify lifting or relaxing interim constraints.

Constraints on New or Additional Source Activities

The Workgroup discussed the following ideas.

At the federal level, agencies should use existing authorities to prohibit or minimize new or increased loadings that would exacerbate existing impairments. Such authorities should include the Clean Water Act as well as (among others) USDA's Conservation Reserve and Wetlands Reserve programs, limitations/conditions on HUD funding for urban development, highway construction under ISTEA, logging and grazing permits on federal lands, and numerous other land management and funding programs. Although State authorities vary considerably, some States have authorities (including State forest practices requirements, water rights/withdrawals authorities, 401 certifications, growth management authorities) that could protect against further degradation of impaired waters. Local governments might also be encouraged to employ their authorities (including zoning authorities) to protect water quality. Public agencies could also make water quality restoration/protection projects a priority for funding in 303(d)-listed waterbodies.

Several Workgroup members were deeply concerned about federal involvement in or direction of source activity decisions at the State and local level. One member suggested that the Committee could recommend prohibiting/minimizing "new or additional" nonpoint source loadings in part by restricting changes in source activities. Another member pointed out that if the Committee supports this approach, many definitional problems could arise. For example, forestry practices may need to be looked at in a special way. Timber harvesting may occur only every 30 to 40 years but, in the member's view, should not be included in any definition of a change in the nature of source activity. Similarly, seasonal changes in agricultural operations (planting, harvesting, fallow) would have to be addressed. (Workgroup members generally felt that such agricultural changes would not constitute a change in the nature of land use.) The Workgroup also recognized that not all States, county, or local agencies have authority to regulate or control land use activities. One Workgroup member suggested that the Committee recommend that States advance adoption of BMPs that minimize new/additional contributions to a water quality violation.

The Workgroup briefly discussed the use of "offsets" (i.e., allowing/encouraging sources wishing to add new/increased loadings of the problem pollutant to buy or otherwise assure commensurate reductions in existing discharges). This approach is used under the Clean Air Act in nonattainment areas. Several Workgroup members expressed support for such an approach but the Workgroup did not have time to discuss this matter in detail and reach consensus.

Questions for the Committee: Do you agree with the general points described above? Importantly, do you agree that interim constraints should be established to limit additional loadings to (or, where applicable, withdrawals from) impaired waters and, if so, that such

constraints should apply, to the extent existing authorities allow, to all sources (point and nonpoint)? If not, what alternative policy would you recommend for preventing further degradation of impaired waters pending TMDL development?

DRAFT 8-25-97

Summary of Listing Workgroup Discussions

NOTE: This paper was drafted by the facilitator for the Listing Workgroup's consideration. The Workgroup has not yet had an opportunity to review, discuss, and/or modify the italicized language.

The Listing Workgroup agreed that environmental agencies should work to protect waters from further degradation of threatened waters. Members of the Workgroup were divided, however, over the options discussed below, with some preferring Option 2 (in combination with Option 6) and some preferring Option 3 while others preferred Option 5 but felt they could live with Option 4. Unfortunately, time ran out on the Workgroup's last teleconference before further consensus could be achieved.

II. BASIS FOR LISTING

(B) SPECIFIC LISTING SITUATIONS TO CONSIDER: THREATENED WATERS

(2) Should section 303(d) lists take into account waters that are threatened (e.g., due to projected population growth or development)?

DISCUSSION: The Clean Water Act does not explicitly require States to include threatened waters on the 303(d)(1) list. In fact, there is no statutory definition of "threatened" waters for purposes of 303(d)(1) listing. The regulations at 40 CFR 130.2(j), however, define water quality limited segments as those waterbodies "where it is known that water quality does not meet applicable water quality standards and/or is not expected to meet applicable water quality standards" (emphasis added). In recent guidance documents, EPA has interpreted "not expected to meet" waters to mean threatened waters and has limited the definition to those waters not expected to meet WQS by the next listing cycle.

Environmental/Economic Considerations

There may be compelling reasons to include threatened waters on a 303(d)(1) list. One Listing Workgroup member noted that the Clean Water Act's explicit goal is to protect and maintain existing water quality and suggested that listing threatened waters may enable the Agency to better meet this policy objective. The Workgroup also noted the environmental benefits of protecting (vs. restoring) water quality.

The Workgroup briefly discussed the economic benefits of keeping water clean (regardless of the sources of pollution). At least one Workgroup member pointed out that restoring WQS is generally more expensive and time-consuming than protecting water quality standards. Specifically, the Workgroup discussed the economic benefits of installing pollution controls during construction of facilities rather than waiting until the water was designated as impaired and requiring retrofits. The Workgroup also discussed the importance of considering water quality when making community growth and development decisions. *Several Workgroup members noted that increasing pollution controls on point sources will not resolve water quality problems in all threatened waters and asked that it be clear that nonpoint sources also need to consider ways to avoid having threatened waters become impaired.*

Link to Antidegradation

The Workgroup discussed the potential role of listing threatened waters in implementing the Clean Water Act antidegradation policy, noting that the antidegradation policy's socioeconomic balancing test for considering new source activities for high quality (i.e., not water quality-limited) waters is not equivalent to the *antidegradation implications for 303(d)(1)-listed waters or the* TMDL process. Some Workgroup members suggested that 303(d)(1) may not be the right Clean Water Act tool for protecting threatened waters and felt that EPA and the States should rely on other Clean Water Act authorities, such as the Agency's antidegradation policy for high quality waters and/or its 319 program, to address threatened waters. *One Workgroup member strongly disagreed and expressed the view that Section 303(d) is the most appropriate and effective authority to address threatened waters.* Another individual asked the group to consider whether it might be better to list threatened waters under 303(d)(3).

Workgroup members noted that threatened waters are not treated consistently in State listing processes. For example, not all States list threatened waters. Furthermore, because threatened waters are not clearly defined nationally, States develop and implement their own definitions. Individual members expressed concern about both types of inconsistency.

OPTIONS:

> (1) EPA should *require* direct States to list threatened waters under 303(d)(1) but should not further define such waters.

OPTION DISCUSSION: The Workgroup noted that this option provides for listing threatened waters but offers the most flexibility to States. Several Workgroup members were concerned that States would not develop consistent (or adequate) definitions of "threatened." Some members were concerned that States would develop too narrow a definition and that threatened waters potentially benefiting from TMDL program attention would not receive it; others were concerned that States would be tempted to list numerous additional waters and, in doing so, dilute TMDL program focus and/or make States and EPA vulnerable to lawsuits (for not meeting TMDL development/implementation deadlines). *Others were concerned that required listings would cause* penalize States *that have comprehensive* strong monitoring programs and collect "trend" data *to have much longer lists (and therefore greater workloads).*

> (2) EPA should require States to list threatened waters under 303(d)(1). Threatened waters are defined as those waters in imminent danger of violating water quality standards. (As-is Option)
>
> (a) imminent danger: by the next listing cycle (currently, two years), or
> *(b) within two years from the time of listing.*

OPTION DISCUSSION: While the Workgroup did not decide whether to recommend including threatened waters on the 303(d)(1) list, the group did agree that if such waters are

included, they should be defined quite narrowly. One Workgroup member noted that the proposed definition*(s)*, above, leave(s) it to State discretion to determine which waters are in "imminent" danger of violating standards. This person was more comfortable with this approach than leaving the definition completely to State discretion.

Several Workgroup members were concerned that allowing States to define "imminent danger" could: (1) encourage some States to define "imminent" so narrowly as to include few (or no) waters or (2) encourage States to list all waters.

The Workgroup *did not agree to* recommend that EPA direct States to use certain tests (e.g., trend analysis or "anticipated sources test") to decide which waters are in imminent danger of violating standards. *Some* members felt that this decision should be left to States. *Others disagreed, suggesting that leaving this decision to States might discourage national consistency*.

One Workgroup member stressed the overall economic benefits of keeping waters clean and felt that this option helps realize these benefits most fully.

> *(3) EPA should authorize and encourage States to list threatened waters (i.e., those waters in imminent danger (i.e., by next listing cycle or within two years) under 303(d)(1).*

OPTION DISCUSSION: As noted in the general discussion above, the statute does not explicitly require States to list threatened waters under 303(d)(1). One Workgroup member suggested, however, that listing threatened waters would encourage States to use the tools of the TMDL process (the (waste)load allocation process) to better manage waters that are most vulnerable to deterioration. EPA might encourage States to include threatened waters through guidance and a variety of incentives.

> *(4)* EPA should *require* direct States to list threatened waters under 303(d)(3).

OPTION DISCUSSION: Workgroup members discussed the potential merits and pitfalls of listing under 303(d)(3). *(For example, EPA is not mandated to review and/or approve TMDLs for 303(d)(3) listed waters; however, EPA can oversee the 303(d)(3) lists through Section 303(e) and other general State program oversight provisions.)* One Workgroup member pointed out that 303(d)(3)-listed threatened waters would then be "in the system" and therefore more carefully monitored by the agency (and concerned citizens or industry) without being subject to the source constraints (possibly) attached to 303(d)(1)-listed waters. Another Workgroup member pointed out that knowing about a water's "threatened" status would also enable the agency to make better-informed permitting and monitoring decisions.

Other Workgroup members expressed reservations about listing *threatened* waters *only* under 303(d)(3). *One individual pointed out that all waters not listed under 303(d)(1) are required to be listed under 303(d)(1) anyway and* further noted that States have historically ignored TMDL development for 303(d)(3)-listed waters. This person expressed concern about turning 303(d)(3) into a "parking lot" for waters the State cannot or is unwilling to address under 303(d)(1) and expressed further concern that TMDLs prepared under 303(d)(3) may not meet 303(d)(1) TMDLs' tests of scientific rigor and defensibility because they do not require EPA review/approval. This individual did not want 303(d)(3) TMDLs to be automatically approved under 303(d)(1) if the water was deemed 'impaired' under subsequent list revisions.

[Note: The Criteria for Approval Workgroup is considering what constitutes a "scientifically rigorous and defensible" TMDL under 303(d)(1). The Listing Workgroup is not attempting to address this question.]

(5) States should not include threatened waters on the 303(d) list.

OPTION DISCUSSION: Several Workgroup members expressed reservations about listing any threatened waters under 303(d). One individual noted that the TMDL program is intended to address impaired waters and is not a broad water quality management tool (as might be implied by including threatened waters). Several individuals noted that threatened waters are covered elsewhere under the CWA (e.g., 319 and 305(b)) and warned that the TMDL program focus might be diluted by their inclusion. Others noted that some subset of threatened waters is likely to become impaired by the next listing cycle and will eventually require TMDL program attention. *One member suggested that "watching" such waters does not adequately protect them from further degradation and offered that, in fact, this option violates the Clean Water Act because any water not listed under 303(d)(1) must be listed under 303(d)(3).*

(6) EPA should clarify and strengthen its antidegradation policy. (Not necessarily independent of any of the options, above:)

OPTION DISCUSSION: The Workgroup discussed the connections between threatened waters and EPA's antidegradation policy and expressed concern about the lack of national consistency in the way this Agency policy is implemented. *Several Workgroup members supported this option as a way to promote national consistency. One Workgroup member noted that antidegradation is already linked to 303(d)(1) because it is a component of a water quality standard. Other individuals did not support this option and commented that EPA should not try to use the 303(d) process to"reinvent the antidegradation program."*

DRAFT 8-25-97

Elements of a Detailed 303(d) list

Overview

This paper is an outgrowth of the "Segmented Approach" introduced by the Listing Workgroup at the Milwaukee meeting and attempts to capture the Workgroup's summer refinements of this idea. The Workgroup was not able to scrutinize the contents of specific elements. For this reason, "Other" categories have been included as placeholders in several ELEMENTS and the reader is advised to view the suggested ELEMENTS as candidates rather than Workgroup recommendations.

The approach is designed to provide States with a model for building a detailed, well-organized 303(d) list that can: (1) improve and organize State management of the list and (2) provide comprehensive information to the public. The Workgroup recognizes that many States' lists already accomplish these two objectives. For this reason, several Workgroup members suggested that EPA should authorize but not require States to adopt a specific approach.

Note: At this time, the Workgroup is not ready to suggest that the following framework (or some other framework) should be used to tailor incentives/consequences for sources on listed waters. This issue will be taken up in discussions subsequent to the Portland meeting. ELEMENTS 8 and 9 are included only as placeholders for this forthcoming discussion.

Framework

The following paper proposes possible elements to be included in a detailed 303(d) list. The framework has been designed to answer the following questions.

For any listed water,

(1) What is the status of TMDL development?
(2) What is the basis for listing/type of impairment?
(3) What are the waterbody's beneficial uses?
(4) How severe is the impairment?

(5) What priority has been assigned to addressing the impairment through TMDL development?
(6) How difficult/complex will it be to develop a TMDL and restore WQ for this water?
(7) When will the TMDL be developed/completed for this water (e.g., in which year)?

The framework may at some point also address the following. Again, this will not be determined until after the Portland meeting.

(8) What constraints are placed on source activities in this water and pending TMDL development?
(9) What responsibilities do the State/EPA have for addressing the problems in this water?

ELEMENT 1: STATUS DETERMINATION

Determine waterbody status; assign to proper "status bucket". Status buckets include:

-- no TMDL or process underway (*)
-- TMDL under development
-- TMDL approved, not being implemented according to schedule
-- TMDL approved, being implemented
-- TMDL implemented but is less-than-effective/fails; need further action/new or modified TMDL (*)
-- TMDL implemented successfully
-- water expected-to-meet WQS
-- *threatened water (*)*
-- *water impaired by natural conditions* (*)
-- other: ???

Note: The Workgroup did not have an opportunity to discuss whether threatened waters or waters impaired by natural conditions should be included here. The bracketed language is meant to serve as placeholders for these items.

ELEMENT 2: BASIS FOR LISTING

State all reasons for listing. Examples include:

-- violates numeric criterion (state which one(s))
-- violates narrative criterion (state which one)s)
-- does not support designated or existing uses (state which one(s))
-- *violates antidegradation policy*

Note: The Workgroup did not come to consensus on whether/how to incorporate antidegradation policy violations into the 303(d) listing process.

ELEMENT 3: WATERBODY USES

Please list the designated and existing beneficial uses of the waterbody. Beneficial uses may include:

-- drinking water
-- cold water fishery
-- warm water fishery
-- recreation/swimming
-- navigation
-- industrial water use (e.g., for high-tech industries)
-- aesthetics
-- livestock watering
-- other: ???

ELEMENT 4: SEVERITY DETERMINATION

Rank the severity of the impairment (HIGH, MEDIUM, or LOW) and give a brief explanation for that determination, including such factors as:

-- type of pollutant or stressor (e.g., toxic organic, minerals, nutrients, temperature, oxygen demand, sedimentation)
-- number/frequency of exceedances
-- nature of impairment: acute or chronic; seasonal or year-round
-- other: ???

Note: The Workgroup has not specifically discussed how this determination might be used.

ELEMENT 5: PRIORITY RANKING

Assign a priority ranking to waters needing TMDL development (waters in those buckets with an * will need to have a priority assigned to them). Include a rank/score and briefly describe the basis for the determination. The priority ranking must be based, at a minimum, on sensitivity/value of the designated/existing beneficial use(s) and severity of the impairment. Factors may include:

-- severity of impairment
-- risk to human health and/or aquatic life
-- risk to aquatic habitat, e.g.,. spawning grounds
-- presence of endangered species living in/relying on the water
-- value of water or resource (e.g., historic, cultural, recreational, biological, aesthetic, economic)
-- extent to which people rely on the water for nourishment/sustenance (e.g., drinking water, subsistence fishing, heavy recreational fishing, etc.)
-- other: ???

ELEMENT 6: COMPLEXITY DETERMINATION

Describe factors that might affect the State's ability to develop a TMDL for this water. This step does NOT imply that highly complex TMDLs will always be developed in later years. Complexity can vary by:

-- quality and availability of data to identify sources, effective controls/management approaches, and appropriate wasteload/load allocations
-- availability of appropriate models (or other tools) to predict fate and effects of pollutants/impact of stressors
-- number and diversity of sources

-- degree of public interest in/support of process (?)
-- ability to address problem using CWA authorities (?)
-- cost of developing the TMDL
-- cost of implementing the TMDL
-- number and variety in types of sources
-- *presence of legacy pollutants*
-- other: ???

Note: The Workgroup did not have time to discuss whether the presence of legacy pollutants is an acceptable consideration in determining how complex a water's TMDL might be. This issue is included as a placeholder for subsequent discussions. At that time, the Workgroup will also discuss potential linkages between this ELEMENT and ELEMENT 7.

ELEMENT 7: TIME FRAME FOR TMDL DEVELOPMENT

Determine when the TMDL for this water will be developed/completed. This date is not the same as the date when the TMDL will be implemented or the WQS will be attained.

ELEMENT 8: SOURCE CONSTRAINTS

Apply baseline source consequences/incentives to all listed waters. Additional incentives/consequences may be determined by waterbody status (ELEMENT 1), schedule (ELEMENTS 6 and 7), and nature of violation (ELEMENTS 3-5).

ELEMENT 9: AGENCY RESPONSIBILITIES

Describe State/EPA duties needed to oversee source implementation of baseline responsibilities (described in ELEMENT 8) and to prepare for/develop the TMDL.

Note: ELEMENTS 8 and 9 are included as placeholders for later discussions during which the Workgroup will consider whether source constraints and agency actions should (1) be included in the list and/or (2) tailored to certain groups of waters based on the listing elements.

Total Maximum Daily Load (TMDL) Program

DRAFT
August 25, 1997

Incentives/Rewards for Leadership

Note to the Committee: This table is built from memoranda that were prepared by Listing Workgroup members and that were briefly discussed on a single Listing Workgroup call. At this time, the Listing Workgroup is not ready to put forward any portion of the table as a recommendation. The Listing Workgroup asked the facilitator to share this table with the Management & Oversight Workgroup and suggested that the Management & Oversight Workgroup use this table to supplement its Dis/Incentives discussions. For this reason, the table is included in the Management & Oversight Workgroup's briefing materials. After the Portland meeting, the Management & Oversight Workgroup will decide how to use the table.

Several members of the Listing and Management & Oversight Workgroups have commented that States/EPA should think creatively about how to increase stakeholder interest and leadership in the TMDL program. At the same time, the State agency/EPA should look for ways to be proactive and show leadership in implementing TMDLs and TMDL programs. The following table describes some activities that sources (or agencies) might undertake to strengthen, streamline, and enhance individual TMDL processes and TMDL programs. The first column describes the activity, the second suggests when to implement/offer the specific activity, and the remaining columns suggest what benefits each of the activities may afford stakeholders and/or the sponsoring agency. The table in no way grades the feasibility, legality, desirability, or value of any single activity.

Incentives (and "Rewards") Available re. Taking Action on 303(d)-Listed Waters

Activity	When to Offer/ Encourage Activity	Source Protec'n/ Certainty/ Relief	3rd Party TMDLs	Offsets/ Trading	State/ EPA Program Streamlining	Funding Oppties	TMDL as Equivs	More Ambient Monitoring Data
1. Permitholders willing to develop or implement a TMDL (or to more thoroughly monitor water quality) w/in their watershed should be granted: -- extended NPDES permit terms (longer than 5-yr terms currently specified under CWA) -- lower priority for permit reissuance	water listed, dev't pending	X	X					X

2. EPA/delegated States should be required to base general permits for multiple facilities with similar discharge characteristics upon the load requirements set by a TMDL.	TMDL being implemented; WQS not yet attained	X			X			
3. EPA should develop an "Innovative Technology" Approach for TMDLs to encourage sources to install a new, untested BMP or control method. -- if a source implements a BMP or other control method that proves ineffective, the source should be granted an extended compliance date	TMDL developed, not yet implemented	X						
4. A municipality on a lower priority 303(d)- listed segment should be allowed to develop, implement, and monitor TMDLs (a water quality-based approach) for its watershed in lieu of satisfying the requirements of the NPDES stormwater permitting program technology-based approach).	water listed; TMDL dev't pending		X		X		X	X
5. EPA should develop a Good Samaritan provision for those who participate in the development/implementation of a TMDL.	water listed; TMDL dev't pending		X					X
6. States should develop point source-nonpoint source trading frameworks to be used in TMDL (waste) load allocation discussions.	for allocation discussions			X				
7. States should encourage pollutant trading between facilities in a 303(d) listed watershed (as based on the load requirements set by the TMDL).	TMDL developed, implemented; WQS not yet attained			X				
8. States should allow multi-media inter- and intra-facility load reduction trading/offsets within a 303(d) listed watershed participating in TMDL development, implementation, and monitoring.	Various, including TMDL being developed; TMDL being implemented			X				

9. States should modify sampling, monitoring, and reporting requirements for NPDES permit holders subject to TMDL requirements.	TMDL being implemented	X						X
10. States should develop mitigation banking programs though which sources could "bank" reductions that other sources could purchase.	Various stages			X				
11. Treatment units, including constructed wetlands, constructed to implement pollution reduction under a TMDL should be exempt from meeting surface WQS/listing.	Post-implementation	X						
12. If a targeted monitoring program (supporting a TMDL) shows that specific chemicals or pesticides are not present in a given watershed, then monitoring requirements for public water systems using a surface water supply should be allowed a waiver (or variance) for those specific chemicals or pesticides.	post-implementation monitoring/evaluation	X			X			X
13. EPA should encourage other EPA programs (e.g. 319) and other federal/State agencies to place a high priority of funding projects where waters are included on the 303(d) list. -- examples: USDA Conservation (and/or Wetlands) Reserve Program and Cal Fed funds						X		
14. Development, implementation, and monitoring a TMDL for a particular watershed should serve as the functional equivalent for the 6217(g) management measures required by NOAA and EPA. A State's plans to develop, implement, and monitor TMDLs in all 303(d)-listed waters within its 6217(g) management area should serve as a functional equivalent of the Coastal NPS Pollution Program required under CZARA for those watersheds.	post-implementation				X		X	

15. States should explore opportunities to provide relief from real estate/property taxes for those sources that install filter strips on their properties as BMPs.	For use in TMDL dev't, implementation	X						
16. All treatment units, including filter strips, riparian buffers, and constructed wetlands, constructed to implement pollutant reductions under a TMDL should be covered under a Safe Harbor Agreement under the Endangered Species Act (between USFWS and USEPA).	Post-implementation	X						

Total Maximum Daily Load (TMDL) Program

M E M O R A N D U M

TO: Federal Advisory Committee on the TMDL Program

FROM: Members of the Management & Oversight Workgroup

DATE: August 25, 1997

RE: Management & Oversight Workgroup Discussion Materials and Small Group Questions

The Management & Oversight Workgroup has met four times since the Milwaukee meeting. Our summer work focused primarily on Pace and Tribal issues. Specifically, we have considered:

- what is the appropriate overall timeframe for TMDL development for all 303(d)-listed waters; and
- what kinds of outreach to Tribes and to State and federal agencies should be encouraged to strengthen tribal participation in the TMDL process.

The Workgroup also spent some time looking at Incentives/Disincentives for federal, State, tribal, and individual leadership and further refined its public participation and stakeholder input recommendations.

In Portland, the Management & Oversight Workgroup will ask the full Committee to concur on several of its proposed approaches, described briefly below. Issues before the Committee for the Portland meeting fall into two categories: consensus calendar items and new business. Consensus calendar items are those issues the Workgroup has come to agreement on and that they feel the Committee will likewise endorse without much discussion. There are two consensus calendar items for the Portland meeting: Public Participation and Stakeholder Involvement. New issues have not yet been presented by the Workgroup to the Committee. In Portland, the Workgroup will ask the Committee to review its recommendations for the two new issues (Pace and Tribal issues). These issues are presented below.

Consensus Calendar

The Management & Oversight Workgroup reviewed its earlier Public Participation

recommendation and decided to split the single recommendation into two separate recommendations. The first recommendation deals with involvement of the general public in 303(d) list and TMDL development processes. The second recommendation deals specifically with stakeholder leadership in the development of individual TMDLs. Several Committee members asked the Workgroup to reconsider this approach in greater detail for the Portland meeting. These materials can be found in **TAB A**.

New Issues

At the Committee's request, the Management & Oversight Workgroup focused much of its summer work on two issues: Pace of TMDL development and Tribal Issues. The "Pace" discussion was, and continues to be, informed by other Workgroups' discussions, especially Criteria for Approval and Listing. The Workgroup anticipates revisiting this issue periodically as the Committee develops its report. To prepare for its discussion of Tribal issues, the Workgroup invited Tom Wall, Deputy Director of the American Indian Environmental Office at EPA, to provide a briefing on tribal issues. The Workgroup anticipates further discussion of issues concerning tribal capacity and tribal involvement in State TMDL processes.

Pace of TMDL Development in States without Litigation (Issue I(G))

Recommendation #1: EPA should direct States to set 8-13 year TMDL development schedules. The exact schedule should be based on the factors described below in Item (4). A State (or EPA) wishing to modify its schedule should also base its decisi on on the factors, below. Schedules could be shorter (or slightly longer) than 8-13 years also depending on these factors.

> (1) Each State should develop a schedule for completing all of the TMDLs on its § 303(d) list. TMDLs should be completed as soon as possible and States with only a few TMDLs to complete should have tighter schedules than those having many TMDLs to do, all other things being equal. As a general guideline, all States should complete high priority TMDLs within no more than six to eight years. Medium priority TMDLs should be completed within 13 years. Lower priority TMDLs should also generally be completed within 13 years, but may be assigned different completion dates depending, in part, on the factors listed below. Each State should develop its specific timeframe for TMDL development based on the factors described below. TMDL development schedules should be flexible enough to accommodate periodic updates/modifications.
>
> > -- There must be an opportunity for public input into the development of the schedule.
> >
> > -- The schedule should be developed after the State has prepared and submitted its § 303(d) list so the schedule can be based on the final list.
> >
> > -- When a new § 303(d) list is developed, the State will need to review (and possibly revise) its overall schedule (as well as the schedule for specific TMDLs). Changes to TMDL development schedules for individual waters may impact the overall schedule. Delays in the overall schedule due to such changes should only be allowed under exceptional circumstances.

[Placeholder note: if implementation plans are required as part of a TMDL, then the amount of time needed to prepare the implementation plan must be determined and included as a separate component in the overall TMDL development schedule.]

(2) The schedule should be incorporated into the Performance Partnership Agreement between the State and EPA.

(3) EPA should strongly encourage early State action onwaters slated for later TMDL completion where more data gathering/analysis or focused program attention is required. Early State action on TMDL development helps avoid late findings of inadequate data, inadequate stakeholder involvement, or other TMDL development process needs that cause completion schedules to slip. For high priority waters where TMDLs will require more than five years to complete, the schedule should also include a date for an initiation milestone when the State will publicly notice an initial characterization of the waterbody and a workplan to complete the TMDL.

(4) A State should consider the following factors in setting its TMDL development schedule:

NUMBER OF WATERS

-- number of TMDLs to be completed (counted by number of waterbodies and number of pollutants)

-- number of river miles (or, for lakes and oceans, the number of shoreline miles) included in the waters on the § 303(d) list

COMPLEXITY

-- number of sources on listed waterbodies

-- number of different types of sources on listed waterbodies

-- general extent to which nonpoint loadings and/or wet weather loadings will need to be addressed in the TMDL (i.e., this may set up a more difficult process of determining loadings and, in the case of loadings not governed by regulatory controls, obtaining reasonable assurances for appropriate reduction measures)

-- number of jurisdictions involved in TMDL development process (e.g., interstate waterbodies)

Secondarily, the Agency should consider the following factors.

-- agency resources available to develop TMDLs

-- availability of monitoring data and/or modeling techniques that are suitable for use in developing TMDLs

-- practical implications of listing for sources located on the waterbody (i.e., restrictions on economic growth in urban, industrial areas with high poverty levels)

-- interest in/need for extensive public participation process (e.g., number of TMDLs that will involve major public controversies, or which will

include a significant number or diversity of stakeholders)

-- priority assigned to the waterbody in the § 303(d) list (should reflect significance and urgency of environmental threats presented by the impairments to be addressed by TMDLs).

Questions for the Committee: *Do you agree with the recommendation, above? If so, which points are most important to you? Do you agree with the weighting scheme? Are any of these factors not relevant to setting the overall pace of TMDL development?*

Strengthening Tribal Outreach

Recommendation #2: EPA should develop an outreach strategy to: (1) educate Tribes about the TMDL process and (2) improve EPA and State's understanding and execution of the government-to-government relationship as it relates to TMDLs.

Improving outreach to, and communication with, Tribes will help advance two aspects of EPA's TMDL Program: building tribal capacity and facilitating tribal participation in State TMDL processes. Tribes are still learning about the TMDL process and need time, and resources, to help build program capacity. Still, Tribes are sovereign nations on U.S. soil and, as such, have important rights related to natural resources. They are not simply members of the public interested in watershed management. It is critical that EPA and State agency staff understand the government-to-government relationship and how that guides/influences their program interactions with Tribes. Detailed below are tools and processes EPA should consider using to strengthen outreach to, and communication with, Tribes.

EDUCATING TRIBES

Tribes may develop and obtain EPA approval for their TMDL programs; to date, no Tribe has sought TMDL program approval. Therefore, one of EPA's priorities should be to support tribal efforts to build capacity. At its most basic level, EPA's outreach to Tribes should help them understand: What is "clean water" and what is a TMDL? Tribes may then make better informed decisions about their role in the program.

The following recommended outreach activities are intended to help educate Tribes about the obligations and values of developing TMDL program capacity.

(1) EPA should develop a training video series. The series should include both basic and advanced modules.

(2) Where possible, EPA should hold one-on-one trainings with Tribal Environmental/WQ Program staff. Given the resource challenges this option poses, these effort may best be focused on the largest Tribes. Details of Tribal personnel to EPA regional offices and of EPA personnel to Tribes to work on water quality issues is one particularly good way to provide "on the job" training.

(3) EPA should develop/distribute to the Tribes fact sheets, newsletters, and other training/educational materials on the TMDL program.

(4) EPA should reserve spots for Tribes at regional TMDL trainings.

(5) EPA should link its outreach efforts to forms/processes/issues already involving

Tribes or to which Tribes feel an allegiance. The Agency should brief (and seek advice from) the National Indian Workgroup and Tribal Operations Committee on any tribal outreach efforts.

EDUCATING STATES AND EPA

The government-to-government relationship between Tribes and EPA (and other branches of the federal government) is unique and must be recognized carefully by all parties during 303(d) list and TMDL development processes.

(6) As part of its outreach/communication strategy, EPA should train EPA Regional TMDL Coordinators and State Agency staff re. the government-to-government relationship.

DEVELOPING PARTNERSHIPS

Many Tribes without TMDL program authority still want to be part of the TMDL process and to work with States on TMDL development where Tribal lands or rights are affected. These partnerships will necessarily vary from Tribe-to-Tribe and State-to-State but represent an important opportunity for integrating Tribal perspectives and concerns into the TMDL process.

(7) EPA should consider using a project involving Tribes in Washington State, Washington Department of Ecology, and EPA Region 10 as a national model for forging such partnerships.

(8) In particular, EPA should ensure that State TMDL processes provide adequate opportunities for Tribal data to be used in TMDL listing and development decisions and for Tribal representatives to participate in TMDL development.

Questions for the Committee: *Do you agree with the above recommendation? If so, do you feel more strongly about certain aspects of the recommendation? Which ones? Do you disagree with any of the points? If so, which ones?*

Total Maximum Daily Load (TMDL) Program

M E M O R A N D U M

TO: TMDL FACA Committee Members

FROM: Science and Tools Workgroup

DATE: August 25, 1997

RE: Proposed Recommendations and Questions for Committee Discussion

In our four teleconferences since the June Committee meeting, we have refined recommendations on training/technical assistance and reached consensus on a number of issues related to decision-making under uncertainty and monitoring. Recommendations on training/technical assistance and consensus observations relating to decision-making under uncertainty are included in the Consensus Calendar, **TABs A-4** and **A-5**, respectively. The Workgroup suggests the following for Committee consideration under "old" and "new" issues:

"Old" Issues for Committee Discussion: Decision-Making Under Uncertainty

In Milwaukee, the Committee agreed that the topic of "decision-making under uncertainty" was high priority, and asked the Workgroup to continue working on it. This issue is also addressed by the "hierarchy approach," which is under development by the Criteria for Approval Workgroup. The practical application of the hierarchy approach will be discussed by the Committee under "old issues." The Science and Tools Workgroup has reached consensus on several points relating to decision-making under uncertainty (see TAB **A-5**); we propose that the hierarchy approach take these points into account. Our consensus points address the sufficiency of data, the need to gather data as a first step in TMDL development, and the phased approach to TMDL development.

In addition, we are asking the Committee to work on the following issues which we did not fully discuss (due to time constraints) and on which we have not reached consensus:

Margin of Safety. The Workgroup did not reach consensus on the role of the statutorily-required Margin of Safety as a tool to allow TMDL development to proceed in cases where basic data are insufficient. Some members feel that a relatively large MOS is appropriate in instances where data are lacking--that it will help ensure that lack of data does not become an excuse not to move forward in TMDL development. Others believe that reliance on a large (i.e., conservative) MOS would be inappropriate; that it will unduly penalize sources and

could result in large unnecessary expenditures for controls. These Workgroup members also noted that the intent of the CWA requirement for an MOS was to address uncertainty regarding estimating the relationship between pollutant loads and water quality (modeling uncertainty), not lack of basic water chemistry data, and that regulatory agencies have a responsibility to gather needed data rather than relying on potentially overly conservative margins of safety. The Workgroup suggests the Committee work toward consensus on a desirable role for the statutorily-required Margin of Safety.

TMDL Surrogate measures. The Workgroup did not reach consensus on the use of surrogate quantified TMDL measures "other than loads" (for example, "percentage shade cover" as part of a TMDL for temperature). Some members felt that such measures, if correlated to the load allocation and water quality standard, may be an appropriate and necessary way to allocate loadings for nonpoint sources. Other members felt that there was no legal basis for developing TMDLs or allocations based on parameters that do not constitute "pollutants" under the Clean Water Act. In addition, it was noted that Congress explicitly addressed thermal pollution in Section 303(d) and did not authorize use of such measures as percentage of shade cover. There is also a concern that the scientific basis of these measures may be questionable.

"New" Issues for Committee Discussion: Monitoring

The Workgroup is seeking the Committee's feedback on the following two issues:

(1) Use of evaluative assessments vs. ambient water quality monitoring to support 303(d)(1) listing: Evaluative assessments, such as are used in the Section 305(b) reports, may lack scientific validity compared to monitored data. Should evaluative data, which may be appropriate in an assessment or screening program, be used in 303(d)(1) listing?

Options identified by the Workgroup (not an exhaustive list):

(a) Some use of evaluative assessments in Listing. To the extent that evaluative assessments are considered desirable, they should be done by professionals, following standardized protocols with appropriate QA/QC. EPA and States should clarify or create standards for evaluative assessments.

(b) No direct use of evaluative assessments in Listing. EPA and States should ensure that the only type of approvable use support assessment to determine Section 303(d)(1) listing will be water quality monitoring and field surveys of biological populations supported by the appropriate QA/QC protocols.

(c) Use evaluative assessments in Listing. The State should use evaluative assessments because ambient monitoring networks are already very thin and getting smaller, the program should err on the side of protecting beneficial uses, professional judgment may not always be something that can follow standard protocols, and standardized protocols, while desirable, may entail a level of scientific certainty that is too expensive to attain with available resources.

(2) Costs/Difficulty of Acquiring Needed Data: A tremendous amount of additional data are necessary to support the TMDL program (listing, TMDL development, TMDL implementation, and post-implementation monitoring/assessment). Severe State and EPA resource constraints make the accumulation of such data very difficult, even though different levels of rigor may be appropriate for monitoring

activities associated with each of these aspects of the TMDL program. The Workgroup believes that the need for data is one of the most daunting challenges to the TMDL program, which must be addressed in order for the program to succeed at attaining water quality standards. The Workgroup would like the Committee to recognize and address this problem and provide feedback on the following options (not mutually exclusive) to address it.

(a) Because TMDLs will drive actions to address water quality problems, EPA should recommend that States make data gathering for TMDL development a higher priority than data gathering for other programs, including 305(b). For example, States/EPA might decrease the frequency of ambient monitoring for 305(b) reports (but not necessarily reporting frequency), or more narrowly target 305(b) monitoring efforts to support 303(d)(1).

(b) EPA/States should carefully design and target data gathering efforts according to TMDL program needs, and encourage other agencies/entities to do so as well. Other programs and agencies should be made aware of the likely data needs of the TMDL program, and how they can potentially contribute to meeting them. For example, USGS monitoring could be much more useful for TMDL development if monitoring stations were located in water quality problem areas, if data on ambient water quality conditions were collected along with flow data, and if the frequency of monitoring activities in a certain area corresponded better with TMDL development and modeling needs.

(c) EPA/States should ensure data are gathered according to specified format and QA/QC protocols necessary for TMDL development (including data gathered primarily for another program or purpose such as the National Estuary Program or Habitat Conservation Plans). Keeping the "end-use" of data in mind may make reduce "waste" in monitoring, and ensure a more consistent level of rigor in TMDL development efforts across the nation and within each state.

(d) EPA/States should encourage data gathering for TMDL development by third parties (including citizens, stakeholders, universities and others), according to specified protocols, with appropriate QA/QC. [Note: in particular, the Workgroup suggests that the Committee discuss the advantages/disadvantages of encouraging sources to collect data].

Total Maximum Daily Load (TMDL) Program

M E M O R A N D U M

TO: TMDL FACA Committee Members

FROM: Criteria for Approval Workgroup

DATE: August 25, 1997

RE: Materials for the Portland Committee Meeting

In four teleconferences since the June Committee Meeting, we reached consensus on:

- components of an implementation schedule to accompany a TMDL (whether it is included under Section 303(d) or 303(e)),
- an approach to legacy issues, and
- refinements to the hierarchy approach.

We have also discussed the concept of partial TMDL approval, and developed an approach to making recommendations on allocation. The Workgroup suggests the following for Committee consideration:

Consensus Calendar

The Workgroup recommends the following for inclusion in the Consensus Calendar (TAB A):

- The contents of the overall hierarchy approach, as outlined in TAB A-1. This revised draft incorporates the Committee's comments at its June meeting.
- Recommended components of an implementation plan/schedule to accompany a TMDL, (whether under § 303(d) or 303(e)), as described in TAB A-2.

  Please note that the special Subgroup on "Implications of Implementation" agreed that there should be an implementation plan submitted along with a TMDL, although

it did not reach agreement on whether it should be required/authorized under § 303(d) or 303(e). (See TAB C-2.) The Subgroup's discussion summary is recommended reading for the full Committee; however, the Workgroup is not confident that the full Committee could reach consensus on the (d) versus (e) issue and therefore is not recommending that this be taken up in Portland. The Workgroup believes that the most useful Committee work at this stage would be to reach consensus on the appropriateness of its recommended implementation plan components, without regard to the specific authority that may be used.

"Old" Issues for Committee Discussion:

(1) Practical Application of the Hierarchy Approach: While there is general consensus on the advantages of using a hierarchy approach, it is also important that the approach be workable, clear to stakeholders and agency personnel, and consistently applied to make timely TMDL development and approval decisions. The attached flowchart/matrix (TAB C-3) may help address these concerns. Also, the Workgroup recommends that EPA consider developing a detailed interactive computer program, using flowcharts and/or templates to guide individual TMDL approval decisions and development processes. The Workgroup is seeking Committee feedback on whether the hierarchy approach is sufficiently clear and workable, whether it could be made more understandable and easier to apply, and, if so, how this might be done.

(2) Implementation Plan Components: While the Workgroup has reached consensus on most components of an implementation plan/schedule to accompany a TMDL (see TAB C-4). and recommends that the Committee adopt these components through the consensus calendar, the Workgroup asks the Committee to consider whether the overall package of implementation plan components is appropriate and workable. Note that the hierarchy approach provides that the level of detail required in TMDL implementation plans would vary based on a number of factors. With this in mind, does the Committee agree that the recommended package of components is appropriate as a starting point?

Please note that the Workgroup has not yet reached consensus (or fully discussed) another possible component of an implementation plan/schedule: A mechanism to monitor unanticipated future changes in the watershed and update the implementation plan accordingly, including adjustments necessary to address new sources or land-use/growth related activities, and adjustments necessary to take into account positive and negative impacts of other programs/activities on load allocations.

"New" Issues for Committee Discussion:

(1) Legacy Problems (such as dams that impede flow, abandoned mines, old logging roads, contaminated sediments, and other historic activities)*:* The Workgroup has reached consensus on the following approach to legacy problems, and is seeking Committee feedback:

See TAB C-4 for a summary of the Workgroup's discussion of this issue.

Only in very rare instances could nothing be done to address problems caused (or caused in part by) legacy problems. Therefore, legacy problems should be approached as if a feasible solution can be reached and a TMDL developed. The TMDL must include a load reduction allocation for the legacy problem, and some type of "action plan" for addressing the problem, the nature of which would depend upon the type of the legacy problem at hand. For example, in some instances (such as with some types of contaminated sediment problems) prevention of new loadings and "no action" may be the preferred course. Given that legacy problems vary greatly, this "action plan" can include whatever strategies and authorities are appropriate and available. But it must be designed to lead to attainment of water

quality standards and protection of beneficial uses, and must identify the amount of pollution reduction which will occur as a result of the strategy, the anticipated rate of improvement and the monitoring plan to measure it. The degree of confidence in the strategy must be taken into account when designing and approving strategies or permit conditions for other dischargers, point source and nonpoint sources alike, within the affected waterbody. As a last resort, if no strategy can be found to address the legacy problem, a rigorous use attainability analysis (UAA) would be required, and any change in designated uses must be justified.

(2) Approach to Allocation: The Workgroup is seeking Committee feedback on its planned approach to allocation issues:

Generally, EPA's policy has been to leave allocation decisions to State discretion. The workgroup believes that it would be difficult to reach consensus on any specific allocation strategy. Therefore, the Workgroup intends to:

(a) recommend areas for informational guidance to be developed by EPA to assist States and others in learning about approaches that have been used successfully in making allocation decisions, and

(b) to the extent possible, develop general principles regarding allocations. (The workgroup will consider, for example, whether principles should include likelihood of implementation, equity, cost effectiveness, etc.).

(3) Partial Approval (the approval of some portion of a TMDL, for example an allocation for a particular source or category of sources, before the full TMDL is completed): The Workgroup did not reach consensus on partial approval and is not seeking Committee input on it at this time. (TAB C-5 summarizes the Workgroup's discussions on this issue to date). However, the Workgroup recommends that the Committee recognize that it may be difficult (and undesirable environmentally) for some sources to delay making long-term capital improvements or commitments to reduction until a full TMDL is completed. As indicated in TAB C-5, the Workgroup has identified partial TMDL approval as one possible means of addressing this problem, although the Workgroup surmised that there may be other ways to address it, such as through the phased TMDL process. The Workgroup suggests that the Committee keep this issue in mind when discussing other issues, such as decision-making under uncertainty and the hierarchy approach (under "old issues").

Total Maximum Daily Load (TMDL) Program

Partial Approval Discussion

8/25/97 Draft

Partial Approval: Under what circumstances could a TMDL be partially approved? How can the approval process accommodate the dynamic nature of data collection? (Note possible overlap with Listing and EPA Management and Oversight Workgroup).

BACKGROUND

Partial approval might be useful if a point source could depend upon that partial approval to move forward with technology improvements. It may be difficult for municipal sewage treatment plants and industries to await the completion and approval of a TMDL to make decisions about capital investments and improvements. Point sources generally cannot adapt well to a more iterative process as nonpoint sources might; because they may need to make large capital investments, they may need more certainty. There might be cases where sufficient information about the specific causes of nonpoint sources of pollution could be identified generally, but loads couldn't be calculated for different categories of nonpoint sources without further data collection. The distinction between background and nonpoint sources may also require further data collection. Partial approval (of the point source in the near term) would allow point source improvements to move forward while the TMDL is developed. However, the partial approval must provide enough certainty to the point source to be a reliable basis for needed capital investments.

A partial approval should contain follow-up dates for evaluation of subsequent data collection and decisions on other wasteload or load allocations. Outside timeframes for any future point source improvements should be included, in case later improvements may still be required. There should be reasonable certainty that nonpoint sources could be clarified by subsequent data collection and strategies added to the partially approved TMDL to allow it to be fully approved.

The dynamic nature of data collection would apply to implementation measures in most TMDLs whether partially or fully approved. In the case of partial approval, data collection for purposes of partial approval would be related to data used to determine load or waste load allocations, not to measure the compliance with implementation strategies.

OPTIONS:

1. Don't allow for partial TMDL approvals. There wouldn't be a sufficient number of cases where they would be useful. It wouldn't be worth the environmental risk to have partial approval which didn't ultimately lead to attaining water quality standards. [Note: legal authority may be a concern. Having all stakeholders/sources involved is necessary before any assurance is given to any one source].

2. Allow partial TMDL approvals only where the baseline information available is sufficient to determine general categories of polluters, but not differentiation within polluter categories.

3. Allow partial TMDL approval in any case where reasonable and where delay would cause further degradation of water.

GENERAL DISCUSSION OF OPTIONS

Several Workgroup members recognized the potential benefit (to the environment and to sources) of allowing for partial approval in some cases, as it might provide a mechanism to enable certain control actions to move forward before all information is gathered. Some Workgroup members also noted that partial approval may also alleviate some pressure put on States by sources (located in waters not designated as of high priority for TMDL development) to rearrange the States' priority schedule (which is often based upon a number of factors, such as degree of impairment or complexity of TMDL development).

However, several Workgroup members expressed some concerns with allowing for partial approval. Certain legal issues may exist (such as the potential need to re-open a permit if additional information indicates that a wasteload allocation needs to be adjusted). Some Workgroup members expressed concern that there may be lack of knowledge about what discharge reductions may ultimately be necessary, and expressed discomfort with allowing a source to negotiate a potential reduction along with some type of shield or guarantee against future regulatory limits over a specified time period.

In sum, there was a recognition of the importance of this issue and an appreciation of the needs and concerns of sources, but no consensus that partial approval was the best way to address the issue. Several members of the Workgroup felt that the issue may be addressed in other ways, such as through phased TMDL processes. However, the Workgroup felt that the issue would (and should) be discussed in other contexts--during the Listing Workgroup's discussion of the "implications of being listed," during the Criteria Workgroup's discussion of "allocation," and during the refinement of the Criteria Workgroup's Hierarchy Approach.

Total Maximum Daily Load (TMDL) Program

Legacy Issues Discussion

8/25/97 Draft

Legacy problems: How might a TMDL address impairments caused by different types of "legacy" problems (e.g., dams, channelization, historic land uses, riparian zone alteration, contaminated bottom sediments, contaminated fish flesh, historic water rights and water supply draw-downs)? Should TMDLs for "legacy" problems differ in any way?

ISSUE DISCUSSION

In many watersheds, activities which occurred decades ago still have an effect on the quality of water. Sometimes the companies or individuals who participated in those activities no longer exist; ownership has changed hands; no regulations exist to force an action by any responsible person or entity; or no solution is technically available at this time. Legacy issues may include past construction of dams, logging, mining, road building, contaminated sediments deposition, or other historic activities.

While each "legacy" problem is different, one way to classify such problems is by the difficulty (cost and/or social disruption) of addressing them. Some problems may be relatively less expensive to address; i.e., removing a network of unused old roads that is causing sediment runoff or implementing BMPs to manage runoff. Other problems may be extremely difficult if not impossible to address for social, political, and/or economic reasons--such as problems requiring removal of a large structure (dam), or a reversal of existing land use. Another way in which legacy problems may differ is by uncertainty about the best remedy to apply. For example, contaminated sediments, even if there were sufficient resources available for removal, sometimes may be best left to prevention and natural recovery from an environmental perspective since dredging and disposing can increase the bio-availability of the contaminating pollutants.

In many cases, if legacy issues are not addressed, attaining water quality standards and protecting beneficial uses may not be possible. In the establishment of water quality standards states may implicitly, or in some cases, explicitly, incorporate legacy associated impairments into the designated uses or criteria for a waterbody (e.g. urbanization). Program implementation activities similarly may already contain some consideration of legacy

impairments (e.g., intake credits for the NPDES permit program). Where legacy issues require assessment under the TMDL program, the following alternatives are available to address this issue.

It should be noted that the options, discussion, and consensus points reached by the Workgroup are appropriate whether or not legacy sources are the *sole* contributor to the water quality impairment. If legacy problems are the sole contributor, the following options assume that the waterbody is on the 303(d) list. While the appropriateness of listing legacy problems is being addressed by the Listing Workgroup, the Criteria for Approval Workgroup assumed that waterbodies with legacy pollutants would be listed.

OPTIONS

1. Where a legacy problem exists, the TMDL must include a load reduction allocation for the legacy problem. If a non-action strategy is proposed, a calculation for the length of time estimated for improvement in water quality as a result of that non-action strategy needs to be included as part of the TMDL implementation strategy. If the nonaction calculation shows that the problem will not be solved over a reasonable period, or the water quality standards not met or beneficial uses not protected without addressing the legacy problem, a strategy must be provided in the TMDL to do so. Since there are many different types of legacy problems, the strategy can vary depending on what is necessary to address the problem, but must identify the amount of pollution reduction which will occur as a result of the strategy, the anticipated rate of improvement and the monitoring plan to measure it. The degree of confidence in the strategy must be taken into account when designing and approving strategies or permit conditions for other dischargers, point source and nonpoint sources alike, within the TMDL waters. If no strategy is provided to address the legacy issue which limits attaining standards or protecting beneficial uses, a Use Attainability Analysis must be completed, and removal of use justified.

2. Where legacy problems exist which cannot feasibly be addressed, TMDLs shall include the loading from the legacy problem in background figures and limit the availability of wasteload allocations or load allocations to capacity available beyond background and any required safety margin. Where legacy problems use or exceed the entire capacity of a receiving water, other existing point source and nonpoint sources shall be limited to current discharges with a timeline for improvement of those sources if the degree of improvement toward attaining the standard justifies the cost *(note: the legality of this is questionable)*. If the degree of improvement is so minor as to not provide any added protection of beneficial uses, existing sources would not be required to make modifications until such time as the legacy problem declines. In no event would increased discharges which would exacerbate the problem be allowed.

3. Where legacy problems exist which cannot feasibly be addressed, TMDLs shall include a load allocation for the legacy problem. Whether or not the receiving waters can attain standards or protection of beneficial uses, without correcting the legacy problem, other load and wasteload allocations together with appropriate permit modifications and nonpoint source improvement implementation strategies must be provided. This will allow the waters to attain the highest possible condition.

4. Where legacy problems exist on federally owned lands, the federal management agency will be provided a load allocation for the legacy problem, and will be expected to attain the load allocation as part of their land management activity *(note: this option could be combined with any of those above).*

ISSUE DISCUSSION

Several Workgroup members recognized the variability of legacy problems, especially that it was important to recognize that legacy problems differ greatly in regard to how difficult they are to address. Several members indicated that it would be useful to categorize such problems along such lines. One member suggested that it may be preferable for the Workgroup to view the issue of legacy problems narrowly, to focus discussion on how the TMDL process should address the types of legacy problems that are extremely difficult to address.

Additional general points raised include:

- It may not be possible to determine whether a legacy problem is a major influence on a waterbody's failure to meet water quality standards until the TMDL is undertaken.

- The fact that a legacy problem is a major influence on a waterbody's failure to meet standards does not necessarily determine the priority the State will place on the development of a TMDL.

The problem or issue of air deposition was briefly raised. However, the group felt that air deposition was most appropriate to address at a later date. While air deposition may be difficult to address and may contain some legacy contributions, it also involves some ongoing polluting/loading activity, as opposed to polluting activity that took place solely in the past.

CONSENSUS POINTS

After some discussion, there was support among Workgroup members that it should never be initially assumed that addressing a legacy problem is infeasible, and only in very rare instances could nothing be done to address a legacy problem. For such rare cases, and only as a last resort, a rigorous UAA would be necessary and appropriate. In other instances of very difficult legacy problems (that appear not easily addressed through a straightforward load allocation process), some type of action would be necessary and appropriate, the nature of which would depend upon the type of legacy problem at hand. For example, in some instances (such as with some types of contaminated sediments) prevention of new loadings and "no action" may be the preferred course.

Given this consensus view, the Workgroup favored option #1 presented above (although Option 4 could be added as well). To address legacy problems, some type of "action plan" should be required, which would indicate how the legacy problem would be addressed--either it would indicate how loads would be calculated and allocated over time, or it would justify why a "no action" alternative is preferable. The goal of the action plan would be to attain water quality standards, and the plan and its implementation would be monitored and revised over time as more knowledge becomes available (in the same manner as other complex TMDLs--see Step 5 of the hierarchy approach). In sum, the Workgroup felt that it is important to ensure that legacy problems are addressed expeditiously, but that it is also important to provide States with sufficient flexibility to address them in the most appropriate manner.

Hierarchy Approach Matrix/Flowchart DRAFT 8/12

	STEP 1 → Target Identification	**STEP 2** → Identification of Deviation from Target	**STEP 3** → Source Identification	**STEP 4** → Pollution Reduction Allocation
Vertical arrow indicates preference; if cannot accomplish "a", move to "b", etc.	**a.** Existing Numeric criterion **b**. Develop numeric criterion **c**. Surrogate environmental indicator **d.** Quantifiable set of remedial measures **e.** Multi-parameter TMDL: e(1): multi-param. index target e(2): most dominant as target e(3): indicator pollutant " "	**a.** Current data sufficient to determine deviation from target (deviation does not vary) **b.** Data indicates deviation from target is variable--use conservative value **c.** Data not sufficient to understand deviation from target, can gather data in reasonable pd.--gather data **d.** Not feasible to collect adequate monitoring data--use BPJ to estimate deviation from target	**a.** Target violation caused by known sources, adequate data exist to quantify contribution of each source **b.** Some sources known, existing data available to quantify those contributions, but suspected that additional pollution sources exist, and info can be gathered quickly--gather info. to identify remaining sources **c.** Same as (b) but sources cannot be identified quickly--preliminary identification of sources, additional monitoring **d.** If sources are known, but inadequate data exist to quantify the amount of pollution from each source--gather new data **e.** If infeasible/impossible to *quantify* amount of pollution from each source, estimated contributions determined by BPJ **f.** If not possible to identify individual pollution sources, BPJ used to identify sources based on knowledge of land use practices	If **2a**: see below **2b** or **2c**: make allocations; if follow up monitoring indicates additional sources, then: **(i)** additional pollution reductions--add to MOS **(ii)** potential pollution reductions if initial scheduled reductions are inadequate **(iii)** modify existing allocations as long as target is met --- **a.** Information relevant to basis of state allocation decision is available for all sources, such information is used to make allocation decisions **b.** Above information known with less certainty **c.** Above information not known, but can be collected expeditiously **d.** Above information not forthcoming, allocations made using BPJ **e.** Above information not forthcoming, BPJ not possible--choose another method to base allocation decisions/responsibility
	Necessary to estimate pollution reduction strategies	*Necessary to establish pollution reduction targets/load allocations*	*Necessary for load allocations*	

Note: A Committee subgroup is discussing implications of planning for steps 5-7as part of TMDL submittal or through Section 303(e)

STEP 5 → Identification of Implementation	**STEP 6** → Monitoring/ Assessment of Effectiveness		**STEP 7** TMDL Revision Ramifications
	Appropriate post-implementation monitoring/assessment activities are based on inverse proportionality, determined from outcome of steps 1-5.		Potential Consequences of Follow-up monitoring/assessment, according to results of assessment, as laid out in monitoring plan
	IF....		
a. If allocations call for point source or enforceable nps reductions only: implementation schedules for LAs and WLAs, specific timetables	**STEP 1 result was:**		
	1a: monitoring necessary to verify post-implementation compliance with criterion, elimination of use impairment	depending on results →	Examine appropriateness of criterion?
	1b: monitoring necessary to verify new criterion adequate, elimination of use impairment		Revise criterion?
b. If allocations call for significant, nonenforceable nps reductions--implementation plan is more rigorous, iterative; identify specific practices, by whom, where, when; reasonable assurances (see "implementation plan components" discussion)	1c: monitoring necessary to verify attainment of surrogate environmental paramater results in elimination of use impairment		Revise or develop new surrogate?
	1d: monitoring necessary to verify that implementation of measures results in elimination of use impairment		Modify measures enforce against non-compliers (where appropriate) or select and impose different or additional measures
	1e: monitoring necessary to demonstrate that multi-parameter, indicator pollutant, or dominant pollutant criterion is adequate		Modify criterion, impose additional measures
c. If allocations call for special strategies to address legacy pollutants, habitat impairment, withdrawals, implementation should also be very specific	**AND IF** **STEP 2 result was:**		
	2a: monitoring necessary only to verify deviation/reduction target		Modify reduction target
	2b: monitoring necessary to refine conservative estimate, or reflect variance in target		Refine conservative estimate, capture temporal variance
	2c: monitoring necessary to verify that target based on newly acquired data is sufficient to eliminate use impairment		Modify reduction target
	2d: additional monitoring necessary to confirm that surrogate or nonquantifiable reduction target is sufficient to eliminate use impairment		Modify or develop new surrogate reduction target
	AND IF **STEP 3 result was:**		
	3a: no additional monitoring may be necessary		(However, if monitoring indicates new sources are found, either (1) additional pollution reductions to provide larger MOS and more equity; (2) potential
	3b: no additional monitoring may be necessary		

STEP 5 → Identification of Implementation	**STEP 6** → Monitoring/ Assessment of Effectiveness	**STEP 7** TMDL Revision Ramifications
		reductions scheduled, implemented if original reductions are not adequate; or (3) existing allocations can be modified)
	3c: additional monitoring to verify preliminarysource determinations	See above
	3d: additional monitoring to verify sources indicated by new information	See above
	3e: more detailed ambient monitoring necessary to determine effectiveness of controls (and verify source identification)	Revise estimated pollution contributions and/or associated control actions
	3f: more detailed ambient monitoring necessary to determine effectiveness of controls (and verify source identification)	Revise estimated pollution contributions and/or associated control actions
	AND IF **STEP 4 result was:**	
	4a: monitoring only to verify target attainment and elimination of use impairment	Revise allocations
	4b: Additional monitoring and assessment necessary	Revise allocations
	4c: monitoring to verify target attainment and elimination of use impairment	Revise allocations
	4d: More detailed follow-up monitoring necessary to verify efficacy of pollution reduction strategies	Revise allocations
	4e: more detailed follow-up monitoring needed to verify whether assigned pollution reductions can be achieved	Revise control responsibilities
	AND IF **STEP 5 result was:**	
	5a: ambient monitoring to determine whether achievement of the WLAs results in attainment of the WQS	Revision of WLAs, permits, etc.
	5b: Additionalmonitoring and assessment including ambient monitoring to determine the effect of controls on water quality and related conditions; compliance assessment to determine degree practices are implemented; and assessments of effectiveness of practices chosen	Evaluation of whether additional practices must be employed; revision/refinement of practices called for
	5c: As above	As above

Total Maximum Daily Load (TMDL) Program

Discussion Summary for TMDL Advisory Committee

August 19, 1997; Ross & Associates Environmental Consulting, Ltd.

SPECIAL SUBGROUP ON THE IMPLICATIONS OF PROVIDING FOR TMDL IMPLEMENTATION UNDER SECTION 303 OF THE CLEAN WATER ACT

Introduction:

The Federal Advisory Committee on the TMDL Program is considering whether to recommend to EPA that implementation of (or implementation plans for) TMDLs be required and, if so, how and under what authority. The Committee established a Special Subgroup to consider the possible implications of requiring implementation under Section 303(d) or (e) of the Clean Water Act. The Special Subgroup met twice by teleconference in July and August 1997. Between the two teleconferences, on August 8, 1997, Bob Perciasepe, Assistant Administrator for Water at EPA, issued a policy memorandum addressing pace and implementation questions and suggesting that implementation would be provided for under Section 303(e). However, EPA has made it clear that this is an interim policy that may be revised based on recommendations from the TMDL FACA Committee.

The Special Subgroup took note of the following:

- The Committee's Criteria for Approval Workgroup is working to address the question of what needs to be included in a TMDL. That Workgroup is expected to recommend that an implementation plan be developed as part of the TMDL process and will suggest appropriate components for implementation plans and the desired level of detail.

- The Criteria for Approval Workgroup is expected to recommend that the implementation plan include a description of the State's plan for taking action (both regulatory and non-regulatory) to implement the TMDL. The Workgroup is also expected to recommend that the plan include a description of the ramifications of failure to implement the plan, including modification or redevelopment of the TMDL and possible re-listing.

The Special Subgroup determined that there were important areas of agreement among its members. There were also a number of outstanding issues on which agreement could not be reached.

Areas of Agreement

- Implementation plans should be required as part of the TMDL process and should be completed at the time a TMDL is developed. Such a requirement will promote reasonably expeditious implementation and help avoid the problem of the TMDL becoming outdated or "stale" before implementation is undertaken.

- States should be held accountable for developing implementation plans through incentives (or sanctions, if necessary) under the Clean Water Act to help ensure that implementation gets high priority and that water quality problems are being addressed.

- Accountability mechanisms available under Section 303(d) would include:
  recognizing a TMDL as "complete," and therefore approvable by EPA, only when the implementation plan is complete, and

  possible citizen suit enforcement of the requirement to develop TMDLs, including the implementation plan.

- Accountability mechanisms available under Section 303(e) would include:
  EPA grants management to reward/penalize State programs based on their performance in completing TMDL implementation plans, and

  withdrawal/denial of NPDES permit program authorization if a State does not complete TMDL implementation plans.

- If EPA should decide to rely on Section 303(e) to require implementation planning, EPA would need to substantially revitalize the Section 303(e) Continuing Planning Process and may need to revise the regulations implementing that provision to include a specific requirement for TMDL implementation planning.

- If EPA itself is responsible for completing the TMDL, the Agency should seek ways to develop the implementation plan cooperatively with affected States and localities so that needed actions can be identified at all levels of government. It would be expected, however, that implementation plans developed by EPA would rely more heavily on federal actions to achieve water quality goals.

Unresolved Issues

- While members of the Special Subgroup generally felt that Section 303(d) and/or Section 303(e) provided sufficient authority to require that a TMDL be implemented, they did not agree on which of these authorities would be preferable for this purpose. Some members expressed strong preferences for using 303(d), while others expressed strong preferences for using 303(e).

- Some members of the Special Subgroup were concerned that reliance on Section 303(d) could lead to judicial enforcement of TMDL implementation plans in unexpected or unintended ways (e.g., by requiring States or EPA to establish new regulatory authorities).

- Other members of the Subgroup were concerned that reliance on Section 303(e), which would require revitalization of the Continuing Planning Process, would be difficult, cumbersome and time-consuming. The simpler approach of requiring implementation plans under Section 303(d) was therefore seen by these members as more certain of success.